

VII.—Some Observations on the Mouth-organs of Diptera.

By CHARLES O. WATERHOUSE.

SOME two years ago I had occasion to study the mouth-parts of Diptera, and among other books consulted Prof. Lowne's work on the Blow-fly. In his first edition of this book, Prof. Lowne put forward the theory that the proboscis of the Blow-fly is chiefly composed of the maxillæ, and not of the labium as usually supposed, and in his new edition he keeps to this view. Prof. Lowne has arrived at this conclusion from studying the development of the parts in the embryo &c.

Prof. Lowne says: "So far as I know there is no dipterous or hemipterous insect in which there are any traces of mandibles, and the parts so named are always a part of the maxillæ, and articulate with the palpigerous scale" (New Edition, p. 151). The species in which I found the parts of the mouth most perfectly developed is *Pangonia longirostris*, and with this insect in view it is impossible for me to doubt that the larger pair of lancets are really the mandibles, and that in spite of the care and skill which Prof. Lowne brings to bear on his investigations, he has nevertheless fallen into some error. Prof. Lowne says: "the only reason for regarding the terminal portion of the proboscis as a modified labium is its position, and this is no evidence from a morphological point of view" (p. 129). This is true, but, so far as I am concerned, it is certainly not position *only* that influences me in my determination. With Prof. Lowne and others I consider the slender pair of lancets in *Pangonia* to be the maxillæ; this is clear enough from the presence of the maxillary palpi. The larger pair I consider to be the mandibles, not *only* on account of their position (although this is just what it ought to be), but because they appear to have a distinct origin from the more slender pair, and the structure of the base with its produced basal angles is only a slight modification of the form constantly met with at the base of the mandible. I would especially compare it with the mandible of the Australian Neuropterous insect *Bittacus*.

It is somewhat difficult to understand exactly what Prof. Lowne does consider these larger lancets. He speaks of them as "parts of the maxillæ" without saying what part. If they are parts of the maxillæ, I presume they are either the lacinia or galeæ.

This, however, does not seem to be Prof. Lowne's view, for in speaking of *Pulex* he says, the pseudolabium is "formed by the united galeæ of the maxilla" (p. 152); and if the "pseudo-

labium" of the flea represents the galeæ, then the pseudolabium of the Diptera is formed in the same way, and yet we have still four lancets in many Diptera to account for!

If, however, these lancets are the mandibles and maxillæ, then the sheath of the proboscis would be the labium; and, apart from its position, it is frequently divided into three portions, very suggestive of the mentum, ligula, and paraglossæ.

I hope Prof. Lowne will some day give us a clearer idea of what he considers these "parts of the maxillæ" to be.

When speaking of the mouth-parts of the flea, Prof. Lowne incidentally mentions that the antenna in that insect is behind the eye, which, he says, "is a clear indication that the simple eye in the Fleas is not homologous with the great compound eyes of insects, which are never in front of the antennæ" (p. 152). When I read this sentence I could not help thinking of Prof. Lowne's statement above quoted (p. 129) that position is no evidence; and when one sees how completely the relative position of the eye, ocellus, and antenna change in such insects as *Tryxalis* and *Fulgora* for instance, I scarcely think it a convincing argument to say that the eye of the flea cannot represent the compound eye of other insects, simply because it is in front of the antenna. A trifle more and the antenna of *Fulgora* would be behind the eye.

VIII.—Description of a new Baboon from East Africa.

By ÖLDFIELD THOMAS.

AMONG some Mammals obtained by Mr. F. J. Jackson in East Africa is a fine male Baboon evidently allied to the Abyssinian *Papio** *thoth*, Ogilb. (with which I presume *P. doguera*, Pucheran, is synonymous), but so different from it in the character and colouring of its fur that I think it ought to be separated from it at least as a subspecies, for which I propose the term

* I am entirely unable to follow those naturalists who, in deliberate defiance of the laws of priority, use *Cynocephalus* instead of *Papio* for the Baboons. Even on the inadmissible but oft-quoted score of convenience, it is surely a greater nuisance and source of confusion that some naturalists or curators of large museums (*e. g.* the Leyden) should use *Papio* and others *Cynocephalus*, than that those who are (and know they are) wrong in using the latter should give it up once for all, and learn the name which has an unquestionable claim to adoption.